

L. KIRKUP.
Iron-Columns.

No. 158,285.

Patented Dec. 29, 1874.

FIG. I.

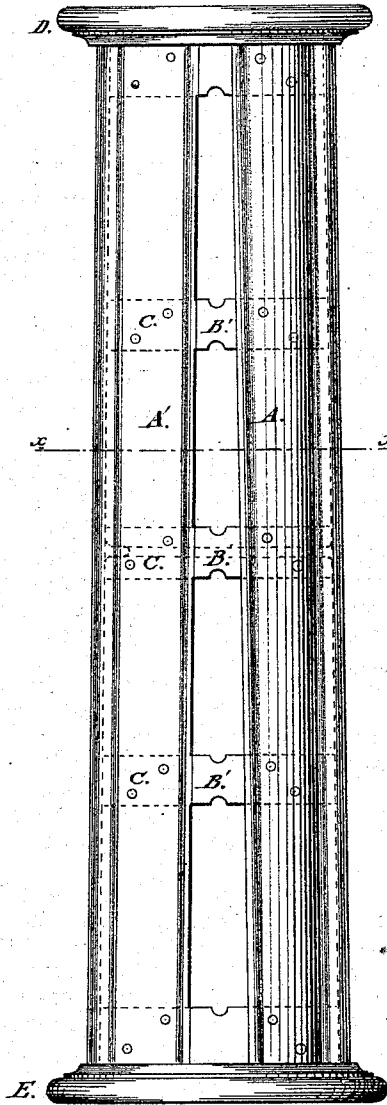


FIG. II.

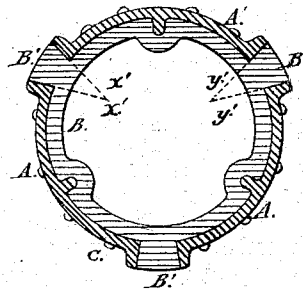


FIG. III.

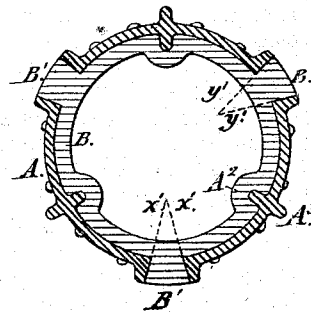
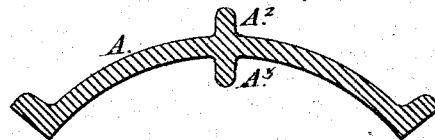


FIG. IV.



WITNESSES:

H. Clay Smith
J. B. Powell

Lancelot Kirkup INVENTOR:

By his atty J. S. Johnson

UNITED STATES PATENT OFFICE.

LANCELOT KIRKUP, OF EAST NEW YORK, N. Y., ASSIGNOR TO ALFRED R. WHITNEY AND J. HENRY WHITNEY, OF NEW YORK CITY.

IMPROVEMENT IN IRON COLUMNS.

Specification forming part of Letters Patent No. 158,285, dated December 29, 1874; application filed November 11, 1874.

To all whom it may concern:

Be it known that I, LANCELOT KIRKUP, of East New York, Kings county, in the State of New York, have invented certain Improvements Relating to Wrought-Iron Columns, of which the following is a specification:

It has long been desired to construct light and strong columns of wrought-iron. Many patents have been taken for sections fastened together and stiffened with flanges for this purpose. My invention is an improvement thereon.

The following is a description of what I consider the best means of carrying out the invention.

The accompanying drawings form a part of this specification.

Figure 1 is a side elevation of an entire column, with certain portions represented in vertical section. Fig. 2 is a horizontal section through *xx*. Fig. 3 is another cross-section, with a plan view of the joining-rings and the abutting projections or buttons formed thereon, which hold the channel-irons. Fig. 4 is a section, showing the channel-iron.

Similar letters of reference indicate corresponding parts in all the figures.

Referring to Figs. 1 and 2, the channel-irons are represented by *A A'*, the part *A* having a stave-like form, or a portion of a hollow cylinder, and the parts *A'* being peculiar flanges formed thereon. The acting faces of these flanges stand in a position oblique to the radial line when the several channel-irons are applied together to form a column. *B B'* are stout irons, which unite the channel-irons and form strong abutments for their edges. The parts *B* are rings, and the parts *B'* are buttons formed thereon, or welded or otherwise firmly secured thereto. The inner faces of the rings *B* are formed with a continuous web around, as indicated by *b*. The sides of the buttons *B'*, which form abutments for the outer faces of the flanges *A'*, are oblique to the radial line, as plainly shown by the continuous dotted lines *x' x' y' y'* in Figs. 2 and 3. The parts *A A'* are secured to the parts *B B'* by rivets *C*. The ends of the channel-irons are finished truly, and are caused to abut against

end rings *D* and *E*, which match closely on the outer faces of the channel-irons, and are strongly riveted. True surfaces are prepared in the iron end pieces *D* and *E*, which abut fairly against the true ends of the channel-irons.

Referring to Figs. 3 and 4, *A² A³* are additional flanges formed on the outer and inner faces of the channel-irons *A*. The connecting-irons *B* are recessed, to allow for the inner flange, *A³*.

It may not be necessary, in practice, to secure a close fit between the surfaces of the internal flanges *A³* and the adjacent surfaces of the connecting-irons *B*. It will be sufficient to allow the channel-irons to bear fairly on the other portions of the connecting-irons, and to re-enforce the connecting-irons on the inner face, to give sufficient strength opposite the flanges.

My channel-irons can be produced in a rolling-mill, with proper care, of uniform section, and a greater or less number may be applied together, with corresponding-shaped connecting-irons, to form large or small columns, as desired. The connecting-irons may be formed by the aid of machinery in regular graduated sizes.

When, as here shown, the channel-irons are brought very near together at the upper end, it is practicable to obtain access to the interior of the column at and near the top by reaching up from below, where the spaces are wider, or reaching down from above through the interior; but the middle and lower portions of each column may be readily painted on the interior by introducing and operating a suitable brush through the spaces between the buttons.

The channel-irons may be more curved in cross-section than I have represented; or they may be less curved, even to the extent of making them entirely flat. In the latter case the column will lose its cylindrical form, and will be only polygonal, triangular, hexagonal, or octagonal, &c., according to the number of the channel-irons employed. In each case the same oblique-faced buttons are employed on the connecting-irons, and the same system of graduating their widths to taper the column.

I claim as my invention—

1. The sectional column described, having the oblique-faced buttons B' on the connecting-irons B, in combination with the correspondingly oblique-flanged channel-irons A A¹, as and for the purposes herein set forth.

2. The additional flanges A² A³ on the channel-irons A A¹, in combination with connecting-irons B B', formed with recesses to allow for the internal flanges A³, and adapted to

serve therewith, as and for the purposes specified.

In testimony whereof I have hereunto set my hand this 5th day of November, 1874, in the presence of two subscribing witnesses.

LANCELOT KIRKUP.

Witnesses:

WM. C. DEY,
E. VOLKMANN.